Chapter One: Study Purpose

PLAN OVERVIEW

The purpose of this 2007 update of the Utah Continuous Airport System Plan (UCASP) is to assess the needs of the state's airport, help justify funding for needed airport improvements, and provide information for governmental and other entities concerning the value, use, and needs of the state's public use airports.

It is appropriate for state aviation system plans be updated at regular intervals. Since the release of the last UCASP in 1987, both the commercial and the general aviation industries have undergone notable change. This plan provides the Utah Division of Aeronautics (UDOA) with an important planning tool that enables them to remain current with industry trends. This plan also helps the Division determine how Utah's airport system should be developed to respond to future challenges and demand.

Through the National Plan of Integrated Airport Systems (NPIAS), the Federal Aviation Administration (FAA) monitors the development needs of the national air transportation system. State aviation system plans, are one of the primary inputs for updating the NPIAS. All general aviation and commercial airports in Utah that are open to the public are part of Utah's state airport system. Not all airports included in the state system are included in the NPIAS. Only those Utah airports included in the NPIAS are able to compete for federal funding from the FAA. All public-use airports in Utah can apply for grants from the UDOA. Chapter Two of this report provides detailed information on all airports included in this study.

The stated purpose of this updated to the UCASP is to provide the UDOA with guidelines to continue the successful development of its aviation system, with an emphasis on planning for the airport system as a whole. Within this process individual airport needs and deficiencies are considered within the broader framework of the entire Utah airport system.

The UCASP is intended to provide the UDOA with a useful decision making tool. With annual requests for grants that far exceed available financial resources, this plan provides the UDOA with information that it uses to:

- Help determine which system airports are most essential to Utah transportation needs and economic objectives.
- Identify projects which have the greatest potential to improve the performance of the Utah's airport system.
- Demonstrate how investment improves the performance of the Utah airport system relative to establish measures and benchmarks.

It is important to note that the UCASP is not a programming document. Inclusion of projects in this plan does not constitute a commitment of either state or federal funding. The UCASP is a "top down" planning study whose recommendations must still be

implemented from the "bottom up". Implementation of specific airport improvements identified in this study remains the responsibility of individual airport owners. Some actions identified by the UCASP could require the development of an updated airport master plan and in some cases an environmental assessment prior to actual development. Information contained in this document should be used by airports in Utah as they evaluate and determine their individual development needs.

STUDY PROCESS

The tasks undertaken to develop the UCASP are divided into eight specific tasks. A brief description of each of the study's technical elements is as follows:

- **Inventory** – One of the first steps in updating the Utah's plan for its airport system is the collection of current facility and activity data for all system airports. This information was obtained from existing data provided by the UDOA and the FAA.
- **Airport Role Analysis** – The FAA currently has a limited classification system for airports. This classification system does not relate each airport's role to factors such as population, economic needs, geography, and accessibility. The Utah airport role analysis considers these factors, as well as aviation-related needs to develop a classification system for use in evaluation of the airport system's performance.
- **Forecasts** – It is important to have a general understanding of which airports in the Utah system are likely to experience the most notable growth for the 5, 10, and 20 year forecast milestones. This task provides 20 year projections of key commercial and general aviation demand indicators.
- **Adequacy Analysis** – With roles, as well as system requirements identified for each airport, this task evaluates the Utah Airport System in terms of its performance. Specific areas of focus examined in evaluating the adequacy of Utah's existing airport system include: economic development (industry, aircraft manufacturing, tourism, oil and mining); accessibility (commercial service, corporate/business aircraft, very light jets (VLJs), population, geographic coverage, life flight, fire fighting, general aviation); and intermodal access (air cargo, freight, rail). In addition, an evaluation of existing instrument approach procedures and Navigational Aid Systems (NAVAIDS) was completed to determine if additional services are warranted from an access and provision standpoint. Finally, the ability of the airports to meet the system requirements set forth as part of the airport roles is analyzed to determine where improvements may be warranted. This analysis identifies Utah Airport System needs to support future economic development and transportation needs.
- **Financial Needs Assessment** – This analysis evaluates statewide airport development needs, including meeting PCI targets, and is presented in aggregate format. The financial requirements necessary to preserve and develop the system of airports, including meeting the statewide PCI target, is identified. The existing airport priority system was reviewed as it relates to the UCASP analysis of airport roles, system requirements, and recommendations.

The types of projects eligible for funding and their priority based on the analysis of the system's performance were reviewed. Special projects were also considered as part of the priority system evaluation.

- **Implementation Plan** – Based on the findings of the system evaluation, recommendations were developed identifying future airport system needs. These needs include system wide issues as well as airport-specific needs and address the FAA's NPIAS designations. The development of an implementation plan was completed to describe an appropriate process to ensure the implementation of the study's recommendations including action items for the state, metropolitan areas, and individual airports, as appropriate. Action items include a description of each action item, responsible parties, schedule, financial requirements, and special conditions.
- **Pavement Program Review** – UDOA currently has a tremendous amount of data related to its airport pavement program and has developed policies and procedures to continue this program. This task provides a review of the policies and procedures currently in place related to airport pavements in terms of preservation versus rehabilitation, priorities, and data collection methods. The review is intended to provide guidance on maintaining an excellent airport pavement program and to provide a recommendation of a feasible pavement condition index (PCI) for the system. The results of this effort are presented in Appendix A of the UCASP.
- **Compatible Land Use Analysis** – Compatible land use is a significant issue related to the long-term development potential of Utah's airports. This task includes identification of current airport compatibility issues, airport compatible land use challenges for each airport in the System, land use control measures, airport land use issues at Utah airports, and land use compatibility planning steps. This task provides the UDOA with the constraints and impacts imposed on the aviation industry by incompatible surrounding land uses and the physical environment, as well as an identification and evaluation of the feasibility of different approaches that can be taken to protect airports from encroachments. The results of this effort are presented in Appendix B of the UCASP.

Chapter Two: Inventory

The inventory portion of the UCASP has two purposes. First, it is necessary to provide accurate data for use throughout the study. Second, the data collected creates a database, which the Utah Division of Aeronautics (UDOA) and the Federal Aviation Administration (FAA) can use for future reference.

This inventory chapter presents portions of the database in tabular format. The tables in this chapter group the airports by their category from the National Plan of Integrated Airport Systems (NPIAS). Within each NPIAS category, the airports are listed in alphabetical order by their associated city. Public use airports not in the NPIAS are included in the General Aviation category. The data presented in this chapter is organized as follows:

- Data Collection Methods
- Existing Facilities
- Approach Types and Weather Reporting Facilities
- Lighting and Visual Aids
- Airport Planning Documentation
- Airport Activity
- Socioeconomic Data
- Airspace

DATA COLLECTION METHODS

Data for this study was compiled by the UDOA and also includes information from the FAA. The data contains information regarding existing facilities and activity at each of the 47 airports included in the UCASP.

Airports considered in this study are those open to the public for use, including some privately-owned facilities. The Utah Airport System includes 47 public-use airports consisting of 7 commercial service airports and 40 general aviation airports. Within the general aviation airport category, there are three airports that are designated as relievers by the FAA and 2 privately-owned airports.

In addition to the data provided by the UDOA, data was reviewed and included as needed from the following sources:

- FAA Data/Records/Terminal Area Forecasts (TAF)
- Airport Master Records (5010s)
- Individual Airport Master Plans/Forecasts
- Individual Airport Layout Plans (ALP)

EXISTING FACILITIES

Table 2-1 presents current airport information by NPIAS category. Non-NPIAS airports are included in the General Aviation category. The NPIAS categories are described in the following section. In additional to NPIAS service levels, Table 2-1 also identifies the airport elevation, runway orientation, runway dimensions and surface type, the presence of a parallel taxiway, and taxiway width. This information is used in subsequent chapters to determine the status and condition of existing facilities, particularly with regard to runway lengths and airport capacity in the evaluation of the existing airport system.

National Plan of Integrated Airport Systems (NPIAS) and Service Level

The National Plan of Integrated Airport Systems (NPIAS) is the national airport system plan developed by the FAA to identify aviation facilities of significance to the national air transportation network. NPIAS airports are eligible for federal grants for airport planning and eligible capital improvements. The NPIAS defines an airport's status by its service level. The service level of an airport reflects the type of service the airport provides to the community. The service level also reflects the funding categories established by Congress to assist in airport development. These categories are:

- **Primary Service (PR)** - Primary Service airports are public use airports receiving scheduled airline passenger service, enplaning 10,000 or more passengers per year.
- **Commercial Service (CM**) - Commercial Service airports are public use airports which receive scheduled airline passenger service and which enplane 2,500 or more passengers annually.
- **Reliever (RL)** - Reliever airports are general aviation or commercial service airports which relieve congestion at a Primary Service airport by providing general aviation and non-airline commercial operators with alternative access to the community.
- **General Aviation (GA)** - General Aviation airports are either publicly or privately owned public use airports that primarily serve general aviation users.

Exhibit 2-1 presents the current Utah system of airports. The airports are grouped by current NPIAS category. Public use airports not included in the NPIAS, but eligible for state funding, are included in the General Aviation category. The Utah System of airports contains three Primary Commercial Service airports, four Commercial Service airports, three Reliever airports, twenty-four General Aviation airports, and thirteen non-NPIAS General Aviation airports.

Eligibility for State Funds

The UDOA supports airports through aviation fuel tax refunds, airport development grants, and a statewide pavement maintenance program. Aviation fuel tax receipts are the primary source of revenue for the grants provided by UDOA for the purpose of airfield capital improvements, airfield maintenance, capital equipment investment, local

match for federal projects, and other service programs. All Utah system airports listed in Table 2-1 are open for use to the public and are eligible for airport improvement grants from the UDOA.

Table 2-1
Existing Facilities

Associated City	Airport	NPIAS	Elevation (Ft.)	Runway Orientation	Length (Ft.)	Width (Ft.)	Surface	Parallel Taxiway	Taxiway Width (Ft.)	Taxiway Lighting
Primary Commercial Service										
Salt Lake City	Salt Lake City International	Yes	4,227	16L / 34R	12,004	150	Asphalt	Full	100	Lighted
				16R / 34L	12,000	150	Concrete	Full	75	Lighted
				17 / 35	9,596	150	Asphalt	Full	75	Lighted
				14 / 32	4,892	150	Asphalt	None		
St. George	St. George Municipal	Yes	2,941	16 / 34	6,606	100	Asphalt	Full	40	Lighted
Wendover	Wendover	Yes	4,235	8 / 26	8,000	150	Asphalt	None		
				12/ 30	8,001	100	Asphalt	None		
Commercial Service										
Bryce Canyon	Bryce Canyon	Yes	7,586	3 / 21	7,400	75	Asphalt	Full	35	Lighted
Cedar City	Cedar City Regional	Yes	5,626	2 / 20	8,653	150	Asphalt	Full	50	Lighted
				8 / 26	4,822	60	Asphalt	None		
Moab	Moab Canyonlands Field	Yes	4,553	3 / 21	7,100	75	Asphalt	Full	35	Lighted
Vernal	Vernal	Yes	5,278	16 / 34	6,201	150	Asphalt	Full	50	Lighted
				7 / 25	4,108	60	Asphalt	None		
Reliever										
Ogden	Ogden-Hinckley	Yes	4,470	3 / 21	8,103	150	Asphalt	Partial	50	Lighted
				7 / 25	5,600	150	Asphalt	None		
				16 / 34	5,352	150	Asphalt	None		
Salt Lake City	Salt Lake City Muni 2	Yes	4,603	16 / 34	5,860	100	Asphalt	Full	50	Lighted
Tooele	Tooele Valley Airport	Yes	4,318	17 / 35	6,100	100	Asphalt	Full	35	Lighted
General Aviation										
Beaver	Beaver Municipal	Yes	5,851	13 / 31	5,100	75	Asphalt	None		
				7 / 25	3,200	90	Dirt	None		
Blanding	Blanding Municipal	Yes	5,865	17 / 35	6,000	75	Asphalt	None		
Bluff	Bluff Airport	No	4,476	3 / 21	2,900	45	Asphalt	None		

Table 2-1, Continued
Existing Facilities

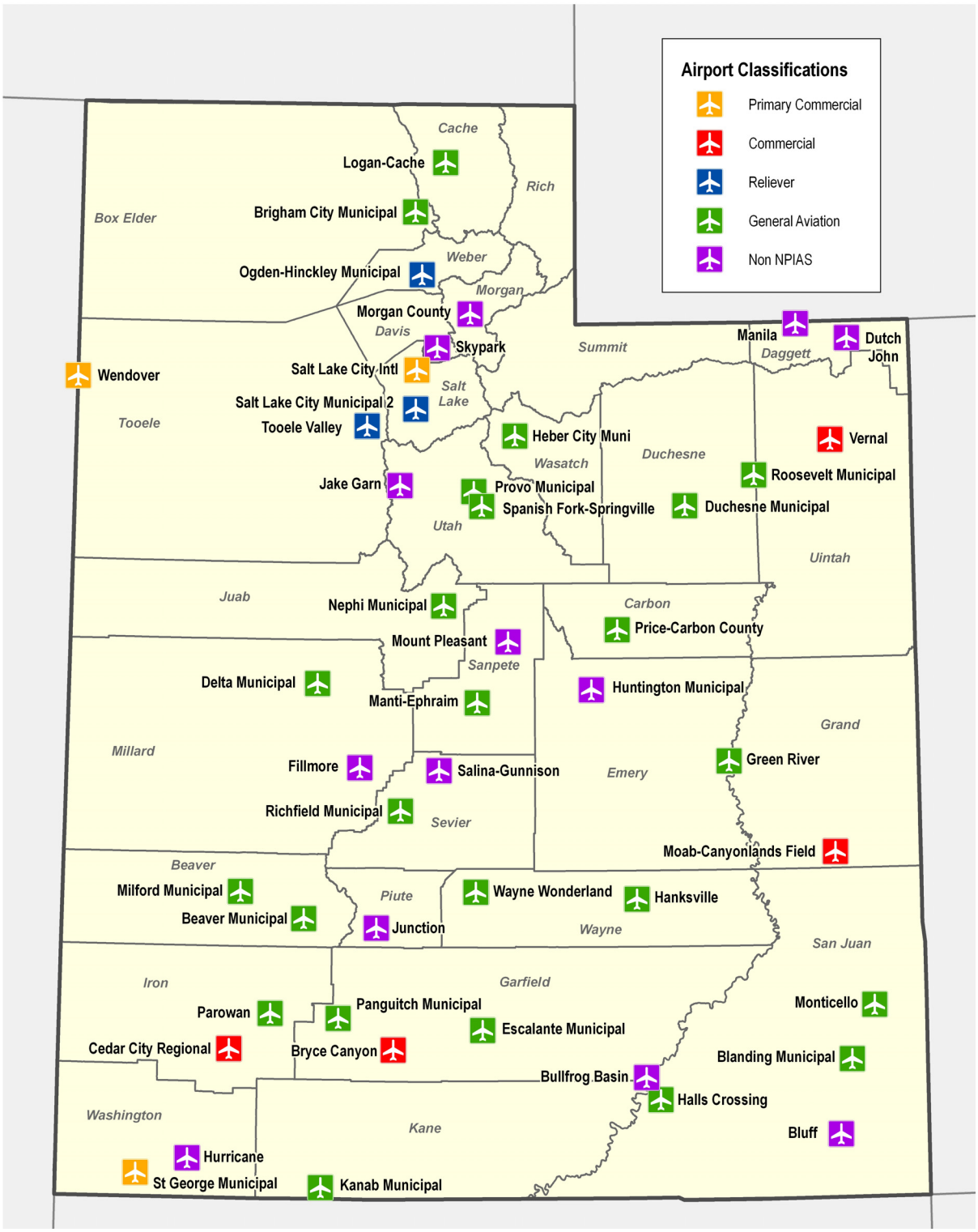
Associated City	Airport	NPIAS	Elevation (Ft.)	Runway Orientation	Length (Ft.)	Width (Ft.)	Surface	Parallel Taxiway	Taxiway Width (Ft.)	Taxiway Lighting
General Aviation										
Bountiful	Skypark	No	4,234	16 / 34	4,700	70	Asphalt	Partial	25	None
Brigham City	Brigham City Municipal	Yes	4,229	16 / 34	8,900	100	Asphalt	Full	35	Lighted
Delta	Delta Municipal	Yes	4,755	12 / 30	5,935	85	Asphalt	None		
				17 / 35	6,011	75	Asphalt	None		
Duchesne	Duchesne Municipal	Yes	5,826	17 / 35	5,800	60	Asphalt	None		
				8 / 26	4,390	40	Dirt	None		
Dutch John	Dutch John	No	6,561	03 / 21	6,600	60	Asphalt	None		
				07 / 25	4,450	100	Turf/Dirt	None		
				11 / 29	4,650	150	Turf/Dirt	None		
Eagle Mountain	Jake Garn	No	4,845	17 / 35	5,000	50	ASPH/GRVL	None		
Escalante	Escalante Municipal	Yes	5,740	12 / 30	5,025	60	Asphalt	None		
Fillmore	Fillmore	No	4,988	04 / 22	5,050	75	Asphalt	None		
Glen Canyon Natl.	Bullfrog Basin	No	4,167	01 / 19	3,500	40	Asphalt	None		
Green River	Green River Municipal	Yes	4,225	13 / 31	5,600	75	Asphalt	Partial	35	Reflectors
Halls Crossing	Halls Crossing	Yes	4,388	01 / 19	5,700	60	Asphalt	Full	35	Reflectors
Hanksville	Hanksville	Yes	4,444	08 / 26	5,675	75	Asphalt	None		
				17 / 35	2,600	120	Dirt	None		
Heber	Heber City Muni	Yes	5,632	03 / 21	6,898	75	Asphalt	Full	35	Lighted
Huntington	Huntington Municipal	No	5,909	07 / 25	4,048	60	Asphalt	None		
				12 / 30	3,640	70	Dirt	None		
				18 / 36	2,079	56	Dirt	None		
Hurricane	Hurricane	No	3,347	18 / 36	3,410	40	Asphalt	None		
Junction	Junction	No	6,069	17 / 35	4,505	60	Asphalt	None		
Kanab	Kanab Municipal	Yes	4,867	01 / 19	6,193	75	Asphalt	None		

Table 2-1, Continued
Existing Facilities

Associated City	Airport	NPIAS	Elevation (Ft.)	Runway Orientation	Length (Ft.)	Width (Ft.)	Surface	Parallel Taxiway	Taxiway Width (Ft.)	Taxiway Lighting
General Aviation										
Loa	Wayne Wonderland	Yes	7,023	13 / 31	5,900	75	Asphalt	None		
Logan	Logan-Cache	Yes	4,457	17 / 35	9,095	100	Asphalt	Full	50	Lighted
				10 / 28	5,005	75	Asphalt	Partial	50	None
Manila	Manila	No	6,175	07 / 25	5,300	60	Asphalt	None		
Manti	Manti-Ephraim	Yes	5,500	03 / 21	4,868	75	Asphalt	None		
Milford	Milford Municipal	Yes	5,039	16 / 34	5,000	75	Asphalt	None		
Monticello	Monticello	Yes	6,998	16 / 34	4,817	75	Asphalt	Full	35	None
Morgan	Morgan County	No	5,010	03 / 21	3,904	50	Asphalt	None		
Mount Pleasant	Mount Pleasant	No	5,829	02 / 20	4,260	60	Asphalt	None		
Nephi	Nephi Municipal	Yes	5,009	16 / 34	6,300	100	Asphalt	Full	35	Lighted
Panguitch	Panguitch Municipal	Yes	6,757	01 / 19	5,700	75	Asphalt	None		
Parowan	Parowan	Yes	5,930	04 / 22	5,000	75	Asphalt	Full	35	Lighted
Price	Carbon County Regional	Yes	5,953	18 / 36	8,300	100	Asphalt	Partial	35	Lighted
				14 / 32	4,520	75	Asphalt	None		
				07 / 25	3,640	75	Asphalt	None		
Provo	Provo Municipal	Yes	4,491	13 / 31	8,599	150	Asphalt	Full	50	Lighted
				18 / 36	6,937	150	Asphalt	None		
Richfield	Richfield Municipal	Yes	5,279	01 / 19	6,600	75	Asphalt	None		
Roosevelt	Roosevelt Municipal	Yes	5,172	07 / 25	6,500	75	Asphalt	None		
Salina	Salina-Gunnison	No	5,159	02 / 20	3,815	60	Asphalt	None		
Spanish Fork	Spanish Fork-Springville	Yes	4,529	12 / 30	5,700	100	Asphalt	Full	35	Reflectors

Source: UDOA; FAA National Plan of Integrated Airport Systems (2007-2011), 2006

Exhibit 2-1
Utah System of Airports



Source: Wilbur Smith Associates, 2006

APPROACH TYPES AND WEATHER REPORTING FACILITIES

Table 2-2 presents data on approach visibility minimums, approach types for each runway end, and weather reporting capabilities at Utah's system airports. The data in each of these categories are described below.

Approach Visibility Minimums

Visibility minimum means the minimum visibility specified for approach, or landing, or takeoff, expressed in statute miles, or in feet where Runway Visual Range (RVR) is reported. This column includes the minimum visibility specified for instrument approaches expressed in statute miles. Straight-in (str) and circling (cir) patterns are also indicated for the instrument approaches. Runways without published instrument approach procedures are classified as visual. A standard visual approach under visual flight rules (VFR) requires a ceiling of 1,000 feet above ground level and forward visibility of three statute miles or greater at the airport.

Approach visibility minimums vary among airports and by approach types. Approach minimums are determined by individual airport and runway facilities, as well as topography and terrain characteristics of the approach and characteristics of the area surrounding the airport. Visibility minimums of 1 mile can be supported with visual runway markings and low intensity runway lights (LIRL) for nighttime operations. Medium intensity runway lights (MIRL) and precision or non-precision runway markings are required to reduce visibility minima to ¾ mile. To establish ½ mile-visibility minimums, the additional equipment requirements are precision runway markings, medium intensity runway lights (MIRLs) for nighttime operations, and an approved approach lighting system.

Global Positioning System/Wide Area Augmentation System (GPS/WAAS) precision approaches can be published with visibility minimums not lower than 1 mile visibility at most paved public use airports without requiring significant airport improvements in marking, lighting, and signage. However, according to estimates from the FAA, only Federal Aviation Regulation (FAR) Part 139 and public use airports with 5,000-foot long runways or greater will have GPS/WAAS instrument approach procedures by 2010. GPS/WAAS procedures for the remaining public airports with paved runways of less than 5,000 feet will be developed after 2010.

Approach Types

There are several types of published approaches at Utah system airports. These approach types are defined below.

- **Non/Directional Beacon (NDB**) – The NDB is a low or medium frequency ground-based radio navigation aid that broadcasts a continuous wave signal with a Morse Code identification on an assigned frequency signal. NDBs are used by pilots to determine the aircraft's bearing to the ground station. Some state and

locally owned NDB frequencies are also used to provide weather information to pilots.

- **Very High Frequency Omni/Directional Range (VOR)** – The VOR is a ground-based radio navigation aid that broadcasts 360 degrees continuous directional information, providing aircraft location relative to the VOR station.
- **Global Positioning System (GPS)** – The GPS is a space-based radio navigation system consisting of a network of satellites and ground based stations. GPS receivers can process system signals to determine the users three-dimensional position (i.e., latitude, longitude and altitude), velocity (if applicable), and the precise time of day.
- **Localizer (LOC**) – The LOC is a radio transmitting antenna that provides lateral course guidance to the runway.
- **Localizer Directional Aid (LDA) –** The LDA is of comparable use and accuracy to a LOC but is not aligned with the runway. Straight-in minimums may be published where alignment does not exceed 30 degrees between the inbound course heading and runway heading. Circling minimums only are published where this alignment exceeds 30 degrees.
- **Distance Measuring Equipment (DME)** – DME is an Ultra High Frequency ground-based navigation aid that responds to aircraft DME avionics, thereby enabling the avionics to determine the slant range distance between the aircraft and the ground station.
- **Instrument Landing System (ILS) –** An ILS provides both horizontal and vertical course information to the runway threshold using a localizer, a glide slope, and other ground based facilities.

Weather Reporting Facilities

There are several types of weather reporting facilities in place at system airports in Utah. They include:

- **Automated Weather Observation System (AWOS)** – AWOS equipment automatically gathers weather data from various locations on and around an airport and transmits the information directly to pilots by means of computer generated voice messages over a discrete frequency.
- **Automated Surface Observation System (ASOS)** – The ASOS provides continuous minute-by-minute weather data observations and generates necessary aviation weather information via a discrete radio frequency by mean of a computer generated voice message.
- **DigiWx** – The DigiWx is an automated weather system reporting FAA certified altimeter and visibility readings, with advisory winds, temperature and humidity. The real time report is available over the airport's Unicom frequency, and can also be received via the internet as well as telephone dial-in. The DigiWx II is approved for FAA Part 91 and Part 135 IFR approaches
- **Low Level Wind Shear Alert System (LLWAS)** – Provides the air traffic control tower with information on wind conditions near the runway. It consists of an array of anemometers that read wind velocity and direction around the airport and

signal sudden changes that indicate wind shear.

- **Limited Aviation Weather Reporting Station (LAWRS)** – This system can be supplemental to an existing ASOS or AWOS system to provide additional weather data.
- **Super Unicom** – The Super Unicom is FAA certified for altimeter settings and other weather data required for instrument approach implementation. Information is broadcast via the airport traffic advisory frequency by a computer generated voice.
- **Terminal Doppler Weather Radar (TDWR)** – TDWR systems detect and report hazardous weather in and around airport terminal approach and departure zones. The TDWR identifies and warns air traffic controllers (ATCs) of low altitude wind shear hazards caused by microbursts and gust fronts, in addition to reporting on precipitation intensities and providing advanced warning of wind shifts.

Table 2-2
Approach Types and Navigation Aids

Associated City	Airport	Runway End	Approach Minimums Decision Height \ Visibility	Approach Types	Weather
Primary Commercial Service					
Salt Lake City	Salt Lake City International	16L	0' / 0 Mile (Str.)	ILS, GPS, VOR/DME	ASOS, TDWR
		34R	0' / 0 Mile (Str.)	ILS, GPS, VOR/DME	
		16R	0' / 0 Mile (Str.)	ILS, GPS	
		34L	0' / 0 Mile (Str.)	ILS, GPS	
		17	200' / 1/2 Mile (Str.)	ILS, GPS, VOR/DME	
		35	200' / 1/2 Mile (Str.)	ILS, GPS	
		14		Visual	
		32		Visual	
St. George	St. George Municipal	16		Visual	AWOS III
		34	594' / 1 Mile (Str.)	GPS, VOR/DME	
Wendover	Wendover	08	1,665' / 1 1/4 Mile (Cir.)	GPS, VOR/DME	AWOS III
		26	356' / 1 Mile (Str.)	GPS, VOR/DME	
		12		Visual	
		30		Visual	
Commercial Service					
Bryce Canyon	Bryce Canyon	03		Visual	ASOS
		21		Visual	
Cedar City	Cedar City Regional	02		Visual	ASOS
		20	200' / 1/2 Mile (Str.)	ILS, GPS, VOR	
		08		Visual	
		26		Visual	
Moab	Moab-Canyonlands Field	03	829' / 1 Mile (Str.)	GPS, VOR	ASOS
		21		Visual	
Vernal	Vernal	16		Visual	ASOS
		34	515' / 1 Mile (Str.)	GPS, VOR	
		07		Visual	
		25		Visual	

Table 2-2, Continued
Approach Types and Navigation Aids

Associated City	Airport	Runway End	Approach Minimums Decision Height \ Visibility *	Approach Types	Weather
Reliever					
Ogden	Ogden-Hinckley	03	200' / 3/4 Mile (Str.)	ILS, GPS, WAAS	ASOS, LAWRS
		21		Visual	
		07	415' / 1 Mile (Str.)	GPS, VOR	
		25		Visual	
		16		Visual	
		34		Visual	
Salt Lake City	Salt Lake City Muni 2	16		Visual	AWOS III
		34	454' / 1 Mile (Str.)	GPS	
Tooele	Tooele Valley	17	726' / 1 Mile (Str.)	GPS, NDB	AWOS III
		35		Visual	
General Aviation					
Beaver	Beaver Municipal	07		Visual	AWOS III
		25		Visual	
		13		Visual	
		31		Visual	
Blanding	Blanding Municipal	17		Visual	AWOS III
		35	386' / 1 Mile (Str.)	GPS	
Bluff	Bluff Airport	03		Visual	
		21		Visual	
Bountiful	Skypark	16		Visual	
		34		Visual	
Brigham City	Brigham City Municipal	16		Visual	AWOS III
		34	411' / 1 Mile (Str.)	GPS, NDB	
Delta	Delta Municipal	17	341' / 1 Mile (Str.)	GPS, VOR/DME	AWOS III
		35	322' / 1 Mile (Str.)	GPS, VOR	
		12		Visual	
		30		Visual	

Table 2-2, Continued
Approach Types and Navigation Aids

Associated City	Airport	Runway End	Approach Minimums Decision Height \ Visibility *	Approach Types	Weather Reporting
General Aviation					
Duchesne	Duchesne Municipal	17		Visual	Super Unicom
		35	834' / 1 Mile (Cir.)	VOR/DME	
		08		Visual	
		26		Visual	
Dutch John	Dutch John	03		Visual	
		21		Visual	
		07		Visual	
		25		Visual	
		11		Visual	
		29		Visual	
Eagle Mountain	Jake Garn	17		Visual	
		35		Visual	
Escalante	Escalante Municipal	13		Visual	
		31		Visual	
Fillmore	Fillmore	04		Visual	AWOS III
		22		Visual	
Glen Canyon Natl. Rec. Area	Bullfrog Basin	01		Visual	
		19		Visual	
Green River	Green River Municipal	13		Visual	
		31		Visual	
Halls Crossing	Halls Crossing	01		Visual	AWOS III
		19		Visual	
Hanksville	Hanksville	08		Visual	
		26		Visual	
		17		Visual	
		35		Visual	

Table 2-2, Continued
Approach Types and Navigation Aids

Associated City	Airport	Runway End	Approach Minimums Decision Height \ Visibility *	Approach Types	Weather
General Aviation					
Heber	Heber City Municipal	03		Visual	AWOS III
		21	1,903' / 1 1/2 Mile (Cir.)	GPS	
Huntington	Huntington Municipal	8		Visual	DigiWx
		26	611' / 1 Mile (Cir.)	GPS, VOR/DME	
		12		Visual	
		30		Visual	
		18		Visual	
		36		Visual	
Hurricane	Hurricane	18		Visual	
		36		Visual	
Junction	Junction	17		Visual	
		35		Visual	
Kanab	Kanab Municipal	01	569' / 1 Mile (Str.)	GPS	AWOS III
		19		Visual	
Loa	Wayne Wonderland	13		Visual	
		31		Visual	
Logan	Logan-Cache	17	643' / 1 Mile (Str.)	GPS	ASOS
		35	289' / 1 Mile (Str.)	WAAS, GPS	
		10		Visual	
		28		Visual	
Manila	Manila	07		Visual	
		25		Visual	
Manti	Manti-Ephraim	03		Visual	
		21		Visual	
Milford	Milford Municipal	16		Visual	ASOS
		34	621' / 1 Mile (Cir.)	GPS, VOR	

Table 2-2, Continued
Approach Types and Navigation Aids

Associated City	Airport	Runway End	Approach Minimums Decision Height \ Visibility *	Approach Types	Weather
General Aviation					
Monticello	Monticello	16		Visual	DigiWx
		34		Visual	
Morgan	Morgan County	03		Visual	
		21		Visual	
Mount Pleasant	Mount Pleasant	02		Visual	
		20		Visual	
Nephi	Nephi Municipal	16		Visual	
		34		Visual	
Panguitch	Panguitch Municipal	18		Visual	AWOS III
		36		Visual	
Parowan	Parowan	04		Visual	
		22		Visual	
Price	Carbon County Regional	18		Visual	ASOS
		36	405' / 1 Mile (Str.)	GPS, VOR/DME	
		07		Visual	
		25		Visual	
		14		Visual	
		32		Visual	
Provo	Provo Municipal	13	200' / 3/4 Mile (Str.)	ILS, GPS, VOR/DME, WAAS	AWOS III
		31		Visual	
		18		Visual	
		36		Visual	
Richfield	Richfield Municipal	01		Visual	AWOS III
		19	1,165' / 1/1/4 Mile (Str.)	GPS	
Roosevelt	Roosevelt Municipal	07		Visual	AWOS III
		25	740' / 1 Mile (Str.)	GPS, VOR	

Table 2-2, Continued
Approach Types and Navigation Aids

Associated City	Airport	Runway End	Approach Minimums Decision Height \ Visibility *	Approach Types	Weather
General Aviation					
Salina	Salina-Gunnison	02		Visual	
Salina	Salina-Gunnison	20		Visual	
Spanish Fork	Spanish Fork-Springville	12		Visual	
Spanish Fork	Spanish Fork-Springville	30		Visual	

Source: UDOA, Wilbur Smith Associates, FAA U.S. Terminal Procedures, Southwest, Volume 4, Effective 26 October 2006 – 23 November 2006
* Figures represent the best approach minimums where multiple instrument approach procedures are available.

LIGHTING AND VISUAL AIDS

Table 2-3 presents runway lighting and approach aids at Utah system airports. Information for system airports presented in this table includes the following:

- **Lighting**
  - High Intensity Runway Lighting (HIRL)
  - Medium Intensity Runway Lighting (MIRL)
  - Low Intensity Runway Lighting (LIRL)
  - Medium-Intensity Approach Light System (MALS)
  - Medium Intensity Approach Lights with Runway Alignment Indicator Lights (MALSR)
  - Approach Light System with Sequenced Flashers, required for Cat. II or III operations (ALSF2)

- **Visual Aids**
  - **Runway End Identification Lights (REILs)** – An airport lighting facility at the runway threshold consisting of one white high intensity strobe light installed at each corner of a runway end, enabling the pilot to quickly identify the runway threshold.
  - **Precision Approach Path Indicators (PAPIs)** – A system of lights on the side of the runway threshold which provides visual approach path guidance to the pilot of an aircraft approaching a runway. PAPIs are further divided into additional categories depending on the lighting configuration and location. Systems found at Utah system airports include:
    - **P2L –** Two Light PAPI on Left Side of Runway
    - **P2R -** Two Light PAPI on Right Side of Runway
    - **P4L –** Four Light PAPI of Left Side of Runway
    - **P4R -** Four Light PAPI on Right Side of Runway
  - **Visual Approach Slope Indicators (VASIs)** – A system of lights on the side of the runway threshold near the touchdown zone. VASIs provide visual approach slope guidance to a pilot which clears all obstruction in the approach area. Systems found at Utah system airports include:
    - **V2L** – Two Box VASI on Left Side of Runway
    - **V4L** – Four Box VASI on Left Side of Runway

Table 2-3
Lighting and Visual Aids

Associated City	Airport	Runway End	Runway \ Approach Lighting	Visual Approach Aids
Primary Commercial Service				
Salt Lake City	Salt Lake City International	16L	HIRL \ ALSF2	P4L
		34R	HIRL \ ALSF2	P4L
		16R	HIRL \ ALSF2	P4L
		34L	HIRL \ MALSR	P4L
		17	HIRL \ MALSR	P4R
		35	HIRL \ MALSR	P4L
		14	HIRL	P4L
		32	HIRL	P4L
St. George	St. George Municipal	16	MIRL	P2L, REILs
		34	MIRL	P2L, REILs
Wendover	Wendover	08	MIRL	P4L, REILs
		26	MIRL	P4L
		12	MIRL	P4L, REILs
		30	MIRL	P4L, REILs
Commercial Service				
Bryce Canyon	Bryce Canyon	03	MIRL	P2L, REILs
		21	MIRL	P2L, REILs
Cedar City	Cedar City Regional	02	MIRL	P4L, REILs
		20	MIRL \ MALSR	P4L
		08	MIRL	P4L, REILs
		26	MIRL	REILs
Moab	Moab-Canyonlands Field	03	MIRL	P4L, REILs
		21	MIRL	P4L, REILs
Vernal	Vernal	16	MIRL	P4L, REILs
		34	MIRL	P4L, REILs
		07	MIRL	P2L, REILs
		25	MIRL	P2L, REILs

Table 2-3, Continued
Lighting and Visual Aids

Associated City	Airport	Runway End	Runway \ Approach Lighting	Visual Approach Aids
Reliever				
Ogden	Ogden-Hinckley	03	HIRL \ MALS	P4L
		21	HIRL	P4L
		07	MIRL	V4L, REILs
		25	MIRL	
		16	MIRL	P2L, REILs
		34	MIRL	P2L, REILs
Salt Lake City	Salt Lake City Muni 2	16	MIRL	P4L, REILs
		34	MIRL	P4L, REILs
Tooele	Tooele Valley	17	MIRL	P4L, REILs
		35	MIRL	P4L, REILs
General Aviation				
Beaver	Beaver Municipal	07		
		25		
		13	MIRL	P2L, REILs
		31	MIRL	P2R, REILs
Blanding	Blanding Municipal	17	MIRL	P4L, REILs
		35	MIRL	P4L, REILs
Bluff	Bluff Airport	03		
		21		
Bountiful	Skypark	16	LIRL	V2L
		34	LIRL	V2L, REILs
Brigham City	Brigham City Municipal	16	MIRL	
		34	MIRL	V4L, REILs
Delta	Delta Municipal	17	MIRL	P2L, REILs
		35	MIRL	P2L, REILs
		12		
		30		

Table 2-3, Continued
Lighting and Visual Aids

Associated City	Airport	Runway End	Runway \ Approach Lighting	Visual Approach Aids
General Aviation				
Duchesne	Duchesne Municipal	17	MIRL	P2L
		35	MIRL	P2L
		8		
		26		
Dutch John	Dutch John	03		
		21		
		07		
		25		
		11		
		29		
Eagle Mountain	Jake Garn	17		
		35		
Escalante	Escalante Municipal	13	MIRL	
		31	MIRL	
Fillmore	Fillmore	04	MIRL	P2L, REILs
		22	MIRL	P2L, REILs
Glen Canyon Natl. Rec. Area	Bullfrog Basin	01	LIRL *	
		19	LIRL *	
Green River	Green River Municipal	13	MIRL	P2L, REILs
		31	MIRL	P2L, REILs
Halls Crossing	Halls Crossing	01	MIRL	P2L
		19	MIRL	P2L
Hanksville	Hanksville	08		
		26		
		17	Non-Standard	
		35	Non-Standard	

* Runway lighting not available for public use.

Table 2-3, Continued
Lighting and Visual Aids

Associated City	Airport	Runway End	Runway \ Approach Lighting	Visual Approach Aids
General Aviation				
Heber	Heber City Municipal	03	MIRL	
		21	MIRL	P4L
Huntington	Huntington Municipal	8	MIRL	
		26	MIRL	
		12		
		30		
		18		
		36		
Hurricane	Hurricane	18		
		36		
Junction	Junction	17		
		35		
Kanab	Kanab Municipal	01	MIRL	P2L
		19	MIRL	
Loa	Wayne Wonderland	13	MIRL	
		31	MIRL	
Logan	Logan-Cache	17	MIRL	P2L, REILs
		35	MIRL	P2L, REILs
		10		
		28		
Manila	Manila	07	MIRL	
		25	MIRL	
Manti	Manti-Ephraim	03	MIRL	P2L
		21	MIRL	P2L
Milford	Milford Municipal	16	MIRL	V2L, REILs
		34	MIRL	V2L, REILs

Table 2-3, Continued
Lighting and Visual Aids

Associated City	Airport	Runway End	Runway \ Approach Lighting	Visual Approach Aids
General Aviation				
Monticello	Monticello	16	MIRL	P2L
		34	MIRL	P2L
Morgan	Morgan County	03		
		21		
Mount Pleasant	Mount Pleasant	02	MIRL	
		20	MIRL	
Nephi	Nephi Municipal	16	MIRL	
		34	MIRL	P2L, REILs
Panguitch	Panguitch Municipal	18	MIRL	P2L
		36	MIRL	P2L
Parowan	Parowan	04	MIRL	P2L, REILs
		22	MIRL	P2L, REILs
Price	Carbon County Regional Airport	18	MIRL	
		36	MIRL	V2L, REILs
		07		
		25		
		14	MIRL	
		32	MIRL	
Provo	Provo Municipal	13	HIRL	P4L, REILs
		31	HIRL	P2L
		18	MIRL	P2L
		36	MIRL	P2L
Richfield	Richfield Municipal	01	MIRL	P2L
		19	MIRL	P2L
Roosevelt	Roosevelt Municipal	07	MIRL	P2L, REILs
		25	MIRL	P2L, REILs

Table 2-3, Continued
Lighting and Visual Aids

Associated City	Airport	Runway End	Runway \ Approach Lighting	Visual Approach Aids
General Aviation				
Salina	Salina-Gunnison	02	MIRL	
		20	MIRL	
Spanish Fork	Spanish Fork-Springville	12	MIRL	P4L
		30	MIRL	P4L

Source: UDOA, Wilbur Smith Associates, 2006

AIRPORT PLANNING DOCUMENTATION

Information on system airports regarding the most recent master plans and/or airport layout plans was obtained from UDOA and is presented in **Table 2-4**. This information includes the date of the latest Airport Master Plan and or Airport Layout Plan for each system airport. In order to be eligible for federal and state funding, airports must have an airport master plan or airport layout plan approved and on file with the FAA. Projects are not eligible for FAA funds if they are not shown on the approved airport layout plan.

Table 2-4
Airport Master Plans and Airport Layout Plans

Associated City	Airport	Year of ALP	Year of Master Plan
Primary Commercial Service			
Salt Lake City	Salt Lake City International	2007	2007
St. George	St. George Municipal	2001	NA
Wendover	Wendover	1999	1990
Commercial Service			
Bryce Canyon	Bryce Canyon	2002	NA
Cedar City	Cedar City Regional	2003	2001
Moab	Moab-Canyonlands Field	2001	1992
Vernal	Vernal	2006	NA
Reliever			
Ogden	Ogden-Hinckley	2006	1993
Salt Lake City	Salt Lake City Muni 2	2007	2006
Tooele	Tooele Valley Airport	2005	NA
General Aviation			
Beaver	Beaver Municipal	2002	NA
Blanding	Blanding Municipal	2002	1996
Bluff	Bluff Airport	NA	NA
Bountiful	Skypark	2002	2002
Brigham City	Brigham City Municipal	NA	NA
Delta	Delta Municipal	2005	2002
Duchesne	Duchesne Municipal	2003	NA
Dutch John	Dutch John	2004	NA
Eagle Mountain	Jake Garn	1998	NA
Escalante	Escalante Municipal	1999	NA
Fillmore	Fillmore	2006	NA
Glen Canyon Natl. Rec. Area	Bullfrog Basin	NA	NA
Green River	Green River Municipal	2002	NA
Halls Crossing	Halls Crossing	NA	1987

Table 2-4, Continued
Airport Master Plans and Airport Layout Plans

Associated City	Airport	Year of ALP	Year of Master Plan
General Aviation			
Hanksville	Hanksville	2004	NA
Heber	Heber City Municipal	2005	1993
Huntington	Huntington Municipal	2004	NA
Hurricane	Hurricane	NA	2000
Junction	Junction	NA	NA
Kanab	Kanab Municipal	2004	2002
Loa	Wayne Wonderland	2002	NA
Logan	Logan-Cache	2003	1992
Manila	Manila	2004	NA
Manti	Manti-Ephraim	1995	1994
Milford	Milford Municipal	2000	NA
Monticello	Monticello	1997	1995
Morgan	Morgan County	NA	1998
Mount Pleasant	Mount Pleasant	NA	2002
Nephi	Nephi Municipal	1995	NA
Panguitch	Panguitch Municipal	2005	1993
Parowan	Parowan	2002	1995
Price	Carbon County Regional Airport	2005	1993
Provo	Provo Municipal	NA	2000
Richfield	Richfield Municipal	2005	2000
Roosevelt	Roosevelt Municipal	1999	NA
Salina	Salina-Gunnison	2003	NA
Spanish Fork	Spanish Fork-Springville	2005	NA

Source: UDOA, Wilbur Smith Associates, 2006

AIRPORT ACTIVITY

Historical aviation activity for each airport was obtained from the UDOA. Annual aircraft operations for calendar years 2004 and 2005 are presented in **Table 2-5**. Historical based aircraft information for calendar year 2005 is presented in **Table 2-6**. Historical passenger enplanement data is presented in **Table 2-7**. This data is used in developing forecasts for air carrier enplanements, commercial operations, general aviation operations, military operations, fleet mix, and based aircraft.

Table 2-5
Annual Aircraft Operations

Associated City	Airport		Annual Operations						
		Year	Air Carrier	Air Taxi	GA Local	GA Itinerant	Military	Total	
Primary Commercial Service									
Salt Lake City	Salt Lake City International	2005	171,706	207,270	4,998	68,905	2,619	455,498	T
		2004	150,776	182,455	4,812	60,551	2,406	401,000	T
St. George	St. George Municipal	2005	6,111	3,228	20,138	15,192	212	44,880	
		2004	6,111	3,228	19,697	14,860	212	44,107	
Wendover	Wendover	2005	1	730	5,129	2,040	100	8,000	
		2004		200	1,971	4,934	100	7,205	
Commercial Service									
Bryce Canyon	Bryce Canyon	2005		350	2,009	2,014		4,373	
		2004		350	1,971	1,969		4,290	
Cedar City	Cedar City Regional	2005	2,756	4,380	23,992	1,784	250	33,162	
		2004	2,756	4,380	21,959	5,154	250	34,498	
Moab	Moab-Canyonlands Field	2005	1,656	1,000	7,450	1,618	100	11,824	*
		2004	1,656	1,000	4,475	1,459	100	8,690	
Vernal	Vernal	2005	1,450	1,000	6,222	1,747		10,419	
		2004	1,450	1,000	5,570	2,981		11,001	*
Reliever									
Ogden	Ogden-Hinckley Municipal	2005		1,250	65,774	40,924	50	107,998	T
		2004		1,250	63,948	42,752	50	108,000	T
Salt Lake City	Salt Lake City Muni 2	2005		200	60,013	10,691	5,000	75,904	
		2004		200	59,298	10,502	5,000	75,000	*
Tooele	Tooele Valley Airport	2005		50	27,500	27,450		55,000	*
		2004		50	25,000	24,950		50,000	

Table 2-5, Continued
Annual Aircraft Operations

Associated City	Airport		Annual Operations					
		Year	Air Carrier	Air Taxi	GA Local	GA Itinerant	Military	Total
General Aviation								
Beaver	Beaver Municipal	2005		50	2,523	816		3,388
		2004		50	2,628	852		3,530
Blanding	Blanding Municipal	2005		100	3,525	1,033		4,657
		2004		100	3,504	1,026		4,630
Bluff	Bluff Airport	2005			902	467		1,369
		2004			876	454		1,330
Bountiful	Skypark	2005		50	56,538	14,190		70,777
		2004		50	55,356	13,892		69,298 *
Brigham City	Brigham City Municipal	2005		100	33,495	3,861		37,456
		2004		100	29,733	3,416		33,249 *
Delta	Delta Municipal	2005		50	2,035	708		2,793
		2004		50	1,971	684		2,705
Duchesne	Duchesne Municipal	2005		10	1,809	690		2,508
		2004		10	1,752	668		2,430
Dutch John	Dutch John	2005		50	223	242		515
		2004		50	219	236		505
Eagle Mountain	Jake Garn	2005			6,369	286		6,656
		2004			6,216	280		6,496
Escalante	Escalante Municipal	2005			223	292		515
		2004			219	286		505
Fillmore	Fillmore	2005		50	675	359		1,084
		2004		50	657	348		1,055
Glen Canyon Natl. Rec. Area	Bullfrog Basin	2005		100	223	192		515
		2004		100	219	186		505

Table 2-5, Continued
Annual Aircraft Operations

Associated City	Airport		Annual Operations					
		Year	Air Carrier	Air Taxi	GA Local	GA Itinerant	Military	Total
General Aviation								
Green River	Green River	2005		100	1,359	2,125		3,584
		2004		100	1,314	2,051		3,465
Halls Crossing	Halls Crossing	2005		100	191	1,804		2,095
		2004		100	219	2,081		2,400 *
Hanksville	Hanksville	2005		50	675	359		1,084
		2004		50	657	348		1,055
Heber	Heber City Municipal	2005		1,500	31,386	4,902	100	37,888 *
		2004		1,500	29,733	4,560	100	35,893 *
Huntington	Huntington Municipal	2005		20	902	447		1,369
		2004		20	876	434		1,330
Hurricane	Hurricane	2005		10	10,418	4,042		14,470
		2004		10	7,737	2,999		10,746 *
Junction	Junction	2005			0	230		230
		2004			10	220		230
Kanab	Kanab Municipal	2005		50	4,307	2,930		7,286
		2004		50	4,161	2,829		7,040
Loa	Wayne Wonderland	2005		10	902	457		1,369
		2004		10	876	444		1,330
Logan	Logan-Cache	2005		500	56,033	2,240	50	58,823
		2004		500	43,076	1,645	50	45,271 *
Manila	Manila	2005		20	223	272		515
		2004		20	219	266		505
Manti	Manti-Ephraim	2005		10	1,128	516		1,654
		2004		10	1,095	500		1,605
Milford	Milford Municipal	2005		20	2,266	2,437		4,723
		2004		20	2,190	2,355		4,565

Table 2-5, Continued
Annual Aircraft Operations

Associated City	Airport		Annual Operations						
		Year	Air Carrier	Air Taxi	GA Local	GA Itinerant	Military	Total	
General Aviation									
Monticello	Monticello	2005		50	2,035	708		2,793	
		2004		50	1,971	684		2,705	
Morgan	Morgan County	2005		20	7,225	2,099		9,344	
		2004		20	7,008	2,035		9,063	*
Mount Pleasant	Mount Pleasant	2005		10	1,809	690		2,508	
		2004		10	1,752	668		2,430	
Nephi	Nephi Municipal	2005		20	7,130	2,552		9,702	*
		2004		20	6,908	2,483		9,411	
Panguitch	Panguitch Municipal	2005		10	1,355	574		1,939	
		2004		10	1,314	556		1,880	
Parowan	Parowan	2005		20	5,917	2,979		8,916	*
		2004		20	7,227	3,643		10,890	
Price	Price-Carbon County	2005		1,000	7,385	2,879	50	11,314	
		2004		1,000	6,570	2,445	50	10,065	*
Provo	Provo Municipal	2005		2,700	72,803	59,347	150	135,000	T
		2004		2,700	109,274	34,876	150	147,000	
Richfield	Richfield Municipal	2005		100	12,834	2,372		15,312	*
		2004		75	6,132	3,046		9,253	*
Roosevelt	Roosevelt Municipal	2005		20	2,035	738		2,793	
		2004		20	1,971	714		2,705	
Salina	Salina-Gunnison	2005			902	467		1,369	
		2004			876	454		1,330	
Spanish Fork	Spanish Fork-Springville	2005		50	42,467	11,760		54,277	*
		2004		50	34,551	9,559		44,160	*
STATE TOTALS		**2005**	**183,680**	**226,408**	**605,452**	**305,427**	**8,681**	**1,329,648**	
		2004	**162,749**	**201,038**	**589,768**	**274,335**	**8,468**	**1,236,356**	

Source: UDOA, Wilbur Smith Associates, 2006 *=Operations count derived from sampling at airport; T=Tower reported operations

Table 2-6
2005 Based Aircraft

Associated City	Airport	Based Aircraft							
		Single Engine	Multi Engine	Jet	Helicopter	Glider	Military	Ultra-Light	Total
Primary Commercial Service									
Salt Lake City	Salt Lake City International	213	69	17	11	1	11	0	322
St. George	St. George Municipal	150	15	0	10	2	0	0	177
Wendover	Wendover	3	0	6	0	0	0	0	9
Commercial Service									
Bryce Canyon	Bryce Canyon	7	1	0	1	0	0	0	9
Cedar City	Cedar City Regional	42	3	0	1	0	0	2	48
Moab	Moab-Canyonlands Field	22	1	0	0	0	0	2	25
Vernal	Vernal	24	1	0	0	1	0	8	34
Reliever									
Ogden	Ogden-Hinckley Municipal	241	34	10	4	0	0	3	292
Salt Lake City	Salt Lake City Muni 2	190	10	2	4	0	8	0	214
Tooele	Tooele Valley Airport	16	2	0	0	0	0	2	20
General Aviation									
Beaver	Beaver Municipal	8	0	0	0	0	0	4	12
Blanding	Blanding Municipal	10	4	0	1	1	0	0	16
Bluff	Bluff Airport	4	0	0	0	0	0	0	4
Bountiful	Skypark	183	13	0	12	0	0	0	208
Brigham City	Brigham City Municipal	76	2	1	1	0	0	0	80
Delta	Delta Municipal	9	0	0	0	0	0	0	9
Duchesne	Duchesne Municipal	8	0	0	0	0	0	0	8
Dutch John	Dutch John	0	0	0	0	0	0	0	0
Eagle Mountain	Jake Garn	1	0	0	0	0	0	0	1
Escalante	Escalante Municipal	2	0	0	0	0	0	0	2
Fillmore	Fillmore	1	0	0	0	0	0	0	1
Glen Canyon Natl. Rec. Area	Bullfrog Basin	0	0	0	0	0	0	0	0
Green River	Green River	6	0	0	0	0	0	0	6

Table 2-6, Continued
2005 Based Aircraft

Associated City	Airport	Based Aircraft							
		Single Engine	Multi Engine	Jet	Helicopter	Glider	Military	Ultra-Light	Total
General Aviation									
Halls Crossing	Halls Crossing	0	0	0	0	0	0	0	0
Hanksville	Hanksville	3	0	0	0	0	0	0	3
Heber	Heber City Municipal	75	4	3	3	12	0	3	100
Huntington	Huntington Municipal	4	0	0	0	0	0	0	4
Hurricane	Hurricane	52	2	0	1	1	0	12	68
Junction	Junction	0	0	0	0	0	0	0	0
Kanab	Kanab Municipal	15	2	0	1	1	0	0	19
Loa	Wayne Wonderland	4	0	0	0	0	0	0	4
Logan	Logan-Cache	110	5	8	2	6	0	5	136
Manila	Manila	0	0	0	0	0	0	0	0
Manti	Manti-Ephraim	3	0	0	0	0	0	0	3
Milford	Milford Municipal	4	0	0	0	0	0	0	4
Monticello	Monticello	9	0	0	0	0	0	0	9
Morgan	Morgan County	30	2	0	0	31	0	7	70
Mount Pleasant	Mount Pleasant	5	0	0	0	0	0	0	5
Nephi	Nephi Municipal	4	2	1	0	1	0	1	9
Panguitch	Panguitch Municipal	5	0	0	0	0	0	0	5
Parowan	Parowan	25	0	0	0	8	0	0	33
Price	Price-Carbon County	34	0	0	0	0	0	0	34
Provo	Provo Municipal	120	25	4	17	0	0	0	166
Richfield	Richfield Municipal	23	2	0	1	0	0	3	29
Roosevelt	Roosevelt Municipal	10	2	0	0	0	0	0	12
Salina	Salina-Gunnison	5	0	0	0	0	0	0	5
Spanish Fork	Spanish Fork-Springville	86	15	0	5	3	0	2	111
STATE TOTALS		**1,842**	**216**	**52**	**75**	**68**	**19**	**54**	**2,326**

Source: UDOA, Wilbur Smith Associates, 2006

Table 2-7
2000 - 2005 Passenger Enplanements

Associated City	Airport						
		2000	2001	2002	2003	2004	2005
Primary Commercial Service							
Salt Lake City	Salt Lake City International	9,522,344	8,951,776	8,997,942	8,958,003	8,884,880	10,601,918
St. George	St. George Municipal	42,733	43,609	41,682	46,301	48,101	49,667
Wendover	Wendover	**	**	**	**	**	23,620
Commercial Service							
Bryce Canyon	Bryce Canyon	3,149	2,503	1,685	2,112	2,915	2,856
Cedar City	Cedar City Regional	10,439	10,179	11,069	8,625	7,226	10,412
Moab	Moab-Canyonlands Field	2,145	2,763	2,483	2,914	3,522	3,078
Vernal	Vernal	5,944	912	2,119	2,189	1,356	1,597
STATE TOTALS		**9,586,754**	**9,011,742**	**9,056,980**	**9,020,144**	**8,948,000**	**10,669,528**

** No commercial service at airport
Source: UDOA, Wilbur Smith Associates, 2006

SOCIOECONOMIC DATA

Demographic Trends

Existing socioeconomic conditions, along with historical trends and future projections, have been analyzed using data supplied by the Governor's Office of Planning and Budget, the U.S. Census Bureau, and Woods & Poole Economics, Inc. This demographic profile focuses on the State of Utah, its seven Multi-County Districts (MCDs), and the 29 individual counties. The primary purpose of the demographic overview is to identify growth trends throughout the state, which can then be related to aviation system needs and requirements.

There are seven MCDs in Utah. Demographic data for these districts is presented at the county level. The seven MCDs, and their respective counties, are listed in **Table 2-8**.

Table 2-8
Utah Multi-County Districts and Counties

Bear River	Central	Mountainland	Southeast	Southwest	Uintah Basin	Wasatch Front
Box Elder Cache Rich	Juab Millard Piute Sanpete Sevier Wayne	Summit Utah Wasatch	Carbon Emery Grand San Juan	Beaver Garfield Iron Kane Washington	Daggett Duschesne Uintah	Davis Morgan Weber Salt Lake Tooele

Source: Governor's Office of Planning and Budget, Wilbur Smith Associates, 2006

Relevant socioeconomic characteristics evaluated in this analysis include the following:

- Population
- Employment
- Personal income

Population

In 2000, the population of Utah was 2,246,553 persons. By 2005, this number had risen 12.57% to 2,528,926, an average annual growth rate of 2.4%. **Table 2-9** shows 2000 and 2005 population, 2030 projections, and average annual growth rates (AAG) for the State of Utah and its Multi-County Districts. The Wasatch Front MCD includes both Salt Lake and Utah Counties, and with a 2005 population of over 1.5 million residents, has the highest population of the MCDs. From 2000 to 2005, the Mountainland and Southwest MCDs experienced dramatic growth, with average annual growth rates of 4.11% and 5.12%, respectively. Of the seven MCDs, only the Southeast district experienced a loss in population between 2000 and 2005, but only at an average annual rate of -0.46%.

Table 2-9
MCD Population and Population Projections, 2000-2030

MCD	2000	2005	2030	AAG 2000-2005	AAG 2005-2030
Bear River	136,712	149,705	260,458	1.83%	2.24%
Central	66,506	71,046	104,798	1.33%	1.57%
Mountainland	417,375	510,532	935,965	4.11%	2.45%
Southeast	54,075	52,832	62,763	-0.46%	0.69%
Southwest	142,006	182,295	461,706	5.12%	3.79%
Uintah Basin	40,627	42,327	53,347	0.82%	0.93%
Wasatch Front	1,389,252	1,520,189	2,207,282	1.82%	1.50%
State of Utah	**2,246,553**	**2,528,926**	**4,086,319**	**2.40%**	**1.94%**

Source: Governor's Office of Planning and Budget, Wilbur Smith Associates, 2006

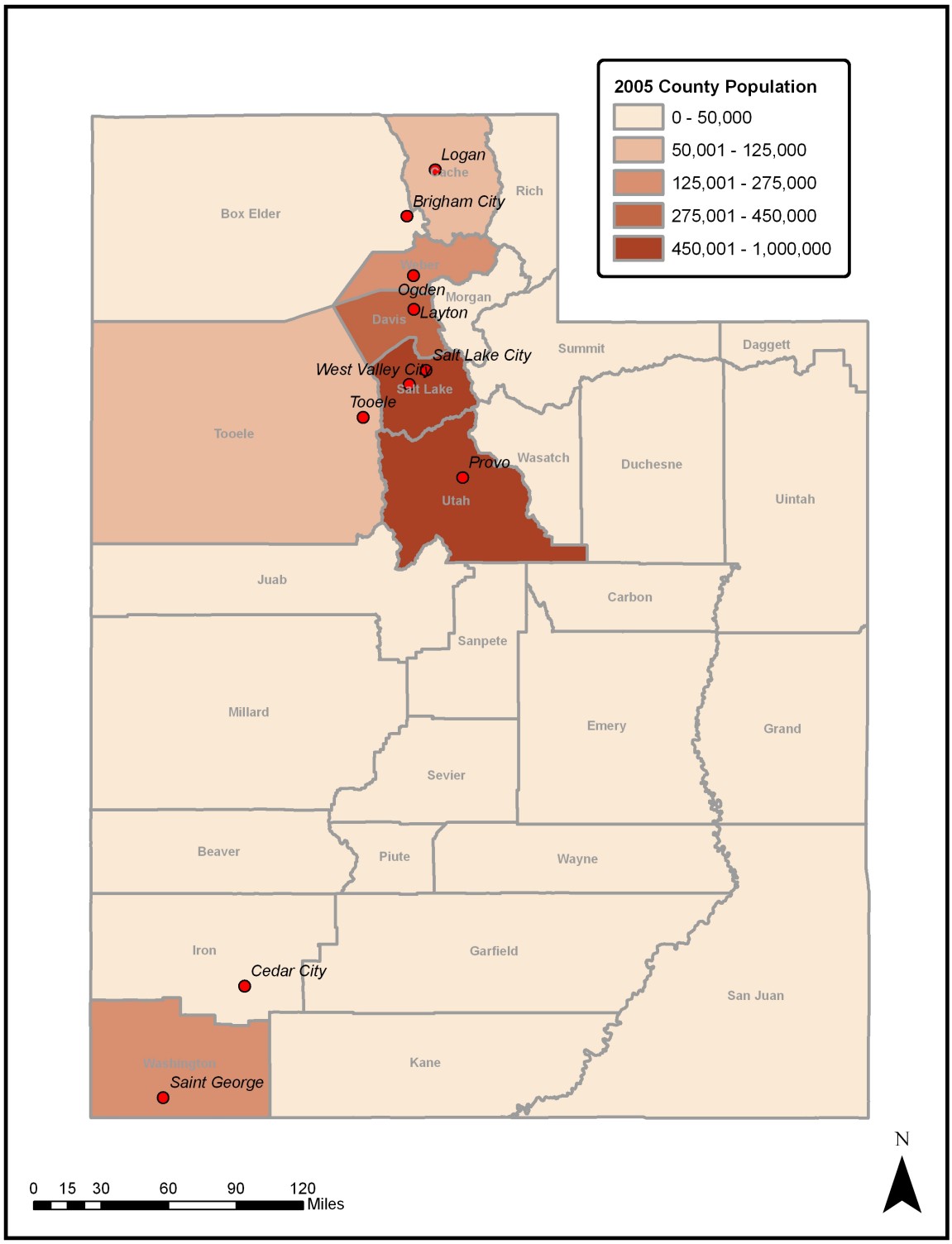
Between 2000 and 2005, only 4 of the 29 counties in Utah experienced a loss of population. Of the rest, only 7 experienced an average annual growth rate greater than or equal to the statewide rate of 2.4%. With a growth rate of 6.53% annually, Washington County experienced the most rapid growth of the period. Utah's two largest counties, Salt Lake and Utah, had 2005 populations of 970,748 and 453,997. Together they help to make the Wasatch Front MCD the most populated region of the State. **Exhibit 2-2** illustrates population ranges by county in Utah.

Future population projections by the Utah Governor's Office of Planning and Budget indicate that many of the population trends experienced from 2000 to 2005 will continue. Utah, as a whole, is expected to have over 4 million residents by 2030, slowing to an average annual growth rate of 1.94% near this time. Of the MCDs, the Southwest

district is expected to maintain a relatively high growth rate of 3.79%, increasing its population to over 450,000. The Wasatch Front is expected to grow at a rate just under its current rate to reach a population of over 2.2 million by 2030.

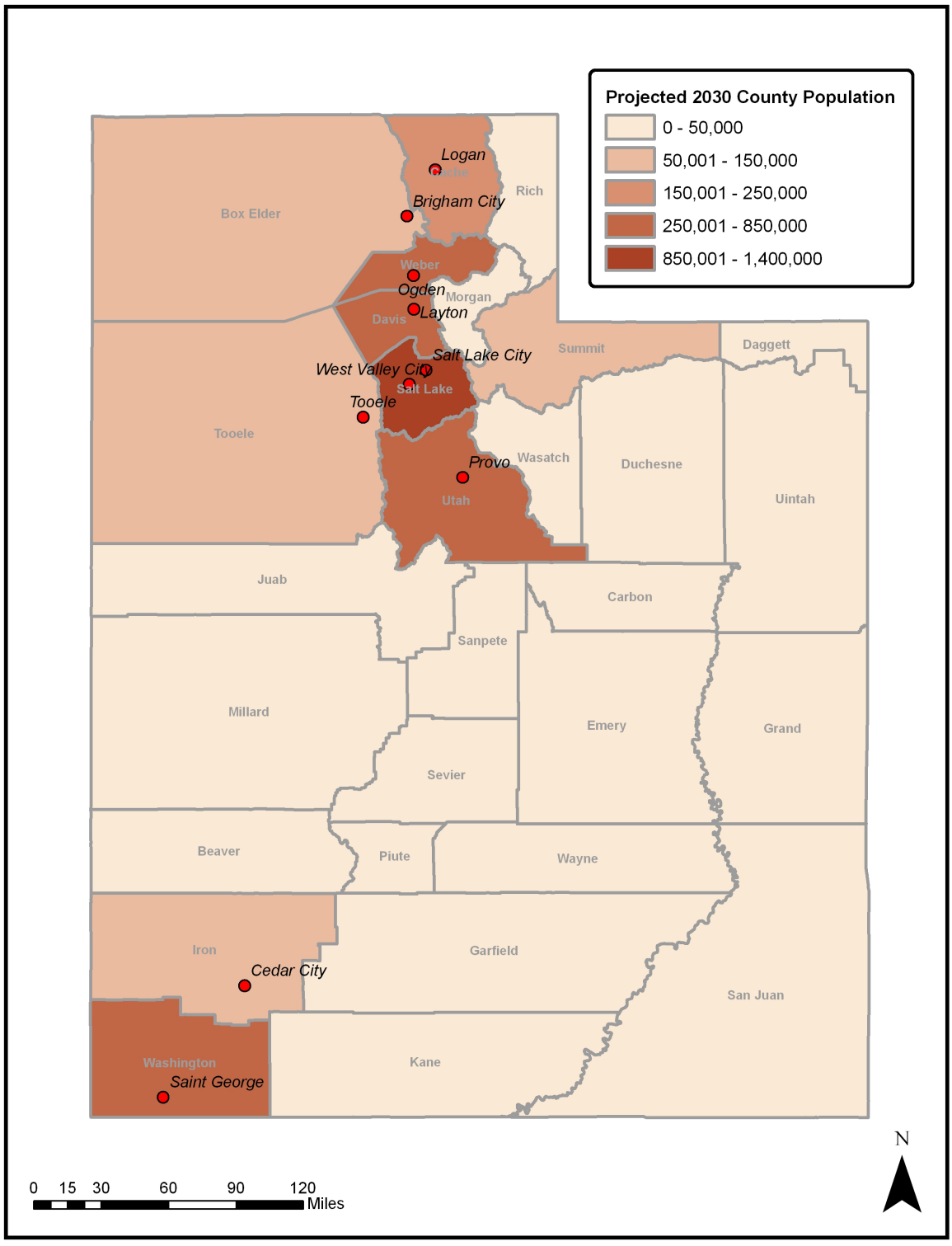
All of Utah's 29 individual counties are expected to experience population growth between 2005 and 2030, with 11 expected to grow at a rate faster than the state as a whole. Washington County is expected to continue to have the fastest growing population, followed by Wasatch, Tooele, Utah, and Summit counties. Salt Lake County is expected to reach a population of nearly 1.4 million by 2030, remaining the most populated county in the State. Fifteen of the 29 counties are expected to grow faster from 2005 to 2030 than they did during the 2000 to 2030 period. Most of these 15 are counties with relatively low populations. **Exhibit 2-3** illustrates the 2030 projected population by county in Utah.

Exhibit 2-2
Population by County in Utah, 2005



Source: 2005 Baseline Projections, Governor's Office of Planning and Budget., Wilbur Smith Associates, 2006

Exhibit 2-3
Projected Population by County in Utah, 2030



Source: 2005 Baseline Projections, Governor's Office of Planning and Budget., Wilbur Smith Associates, 2006

Employment

Employment in Utah has risen from 1.3 million jobs in 2000 to nearly 1.5 million jobs in 2005, an annual increase of 1.87%. As with population, Salt Lake and Utah counties have the largest number of jobs, with 646,003 and 195,196, respectively. Thus, the Wasatch Front also leads the MCDs in job volume. Southwest and Mountainland are again the fastest growing MCDs in this category, with average annual rates of 3.36% and 2.33%. **Table 2-10** summarizes employment characteristics of Utah and its MCDs.

Table 2-10
MCD Employment and Employment Projections, 2000-2030

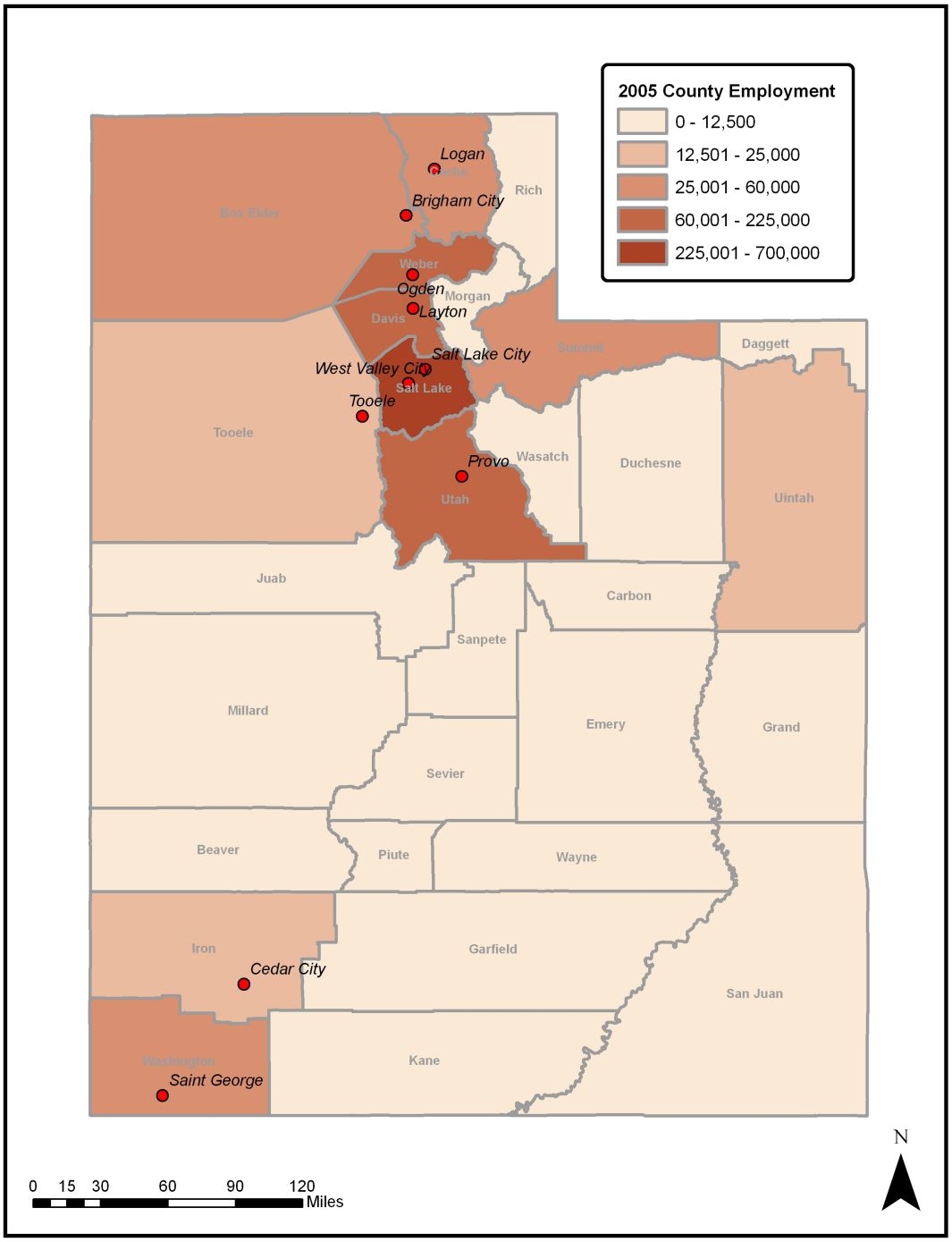
MCD	2000	2005	2030	AAG 2000-2005	AAG 2005-2030
Bear River	78,764	86,944	125,706	2.00%	1.49%
Central	31,753	34,846	47,559	1.88%	1.25%
Mountainland	225,518	253,076	411,699	2.33%	1.97%
Southeast	27,427	29,549	37,575	1.50%	0.97%
Southwest	73,936	87,240	169,809	3.36%	2.70%
Uintah Basin	21,015	22,423	27,603	1.31%	0.83%
Wasatch Front	881,696	956,022	1,397,090	1.63%	1.53%
STATE OF UTAH	**1,340,109**	**1,470,100**	**2,217,041**	**1.87%**	**1.66%**

Source: 2005 Baseline Projections, Governor's Office of Planning and Budget., Wilbur Smith Associates, 2006

None of Utah's counties experienced a loss in job quantity between 2000 and 2005, with 12 counties having an annual growth rate greater than that of the State as a whole. Of these, a 4.22% rate in Washington County accounted for over 10,000 new jobs, a 2.23% rate in Utah County accounted for over 20,000 new jobs, and Salt Lake County's rate of 1.52% accounted for the creation of over 40,000 new jobs. In 2004, the statewide unemployment rate was 5.2% and varied greatly from county to county. For example, Cache County had an unemployment rate of only 3.9%, while San Juan County's rate was 10%.

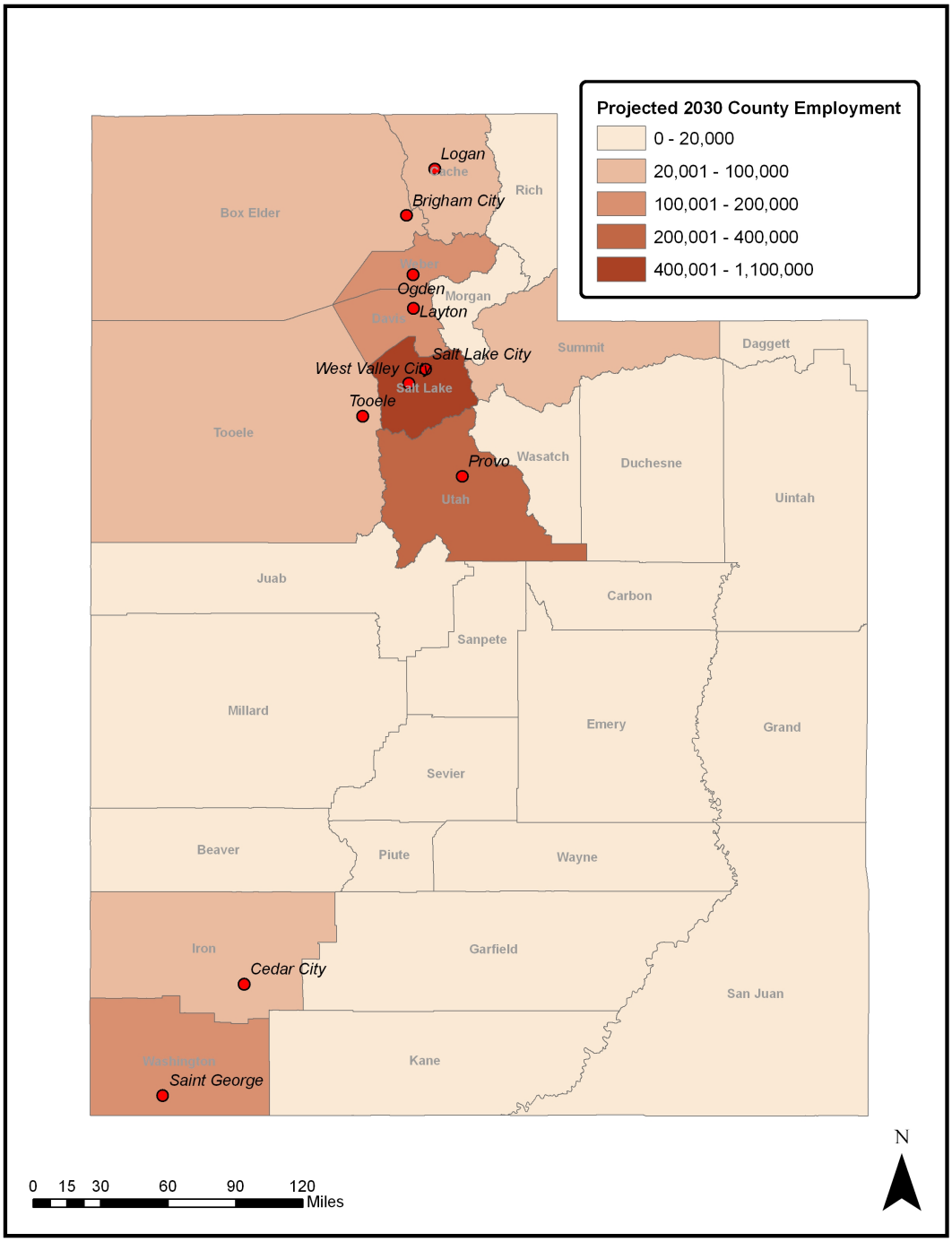
By 2030, Utah is expected to support over 2.2 million jobs. The average annual growth rate is only expected to slow to 1.66%. The Mountainland and Southwest MCDs are expected to maintain an employment growth rate higher than that of the state. During the same period, no individual counties are expected to lose job volume. Many of the same counties that experienced rapid growth from 2000 to 2005 are expected to continue these growth rates through 2030. Juab, Kane, Summit, Tooele, Wasatch, and Washington counties are all projected to maintain average annual growth rates of at least 2%. In addition to population growth, Washington County is also expected to lead the state in job growth, with the number of jobs in the county doubling to nearly 120,000 by 2030. **Exhibits 2-4** and **Exhibits 2-5** illustrate employment at the county level in 2005 and projected levels for 2030.

Exhibit 2-4
Employment by County in Utah, 2005



Sources: U.S. Bureau of Economic Analysis, Utah Department of Work Force Services, Wilbur Smith Associates, 2006

Exhibit 2-5
Projected Employment by County in Utah, 2030



Sources: U.S. Bureau of Economic Analysis, Utah Department of Work Force Services, Wilbur Smith Associates, 2006

Income

Per capita income in Utah increased between 2000 and 2005 at an average annual rate of 2.59%, raising the statewide average to $23,796. Regionally, all MCDs experienced a growth in per capita income. In general, districts with a lower average per capita income experienced faster growth between 2000 and 2005, while those with higher income rates experienced slower growth, indicating that the statewide per capita income in Utah was beginning to even out. For example, the highest-paid MCD, Mountainland, experienced an average annual growth rate of only 1.85% between 2000 and 2005, while the lowest paid, Central, grew at 4.08% annually. **Table 2-11** summarizes per capita income in Utah at the MCD level.

Table 2-11
MCD Per Capita Income and Projections, 2000-2030

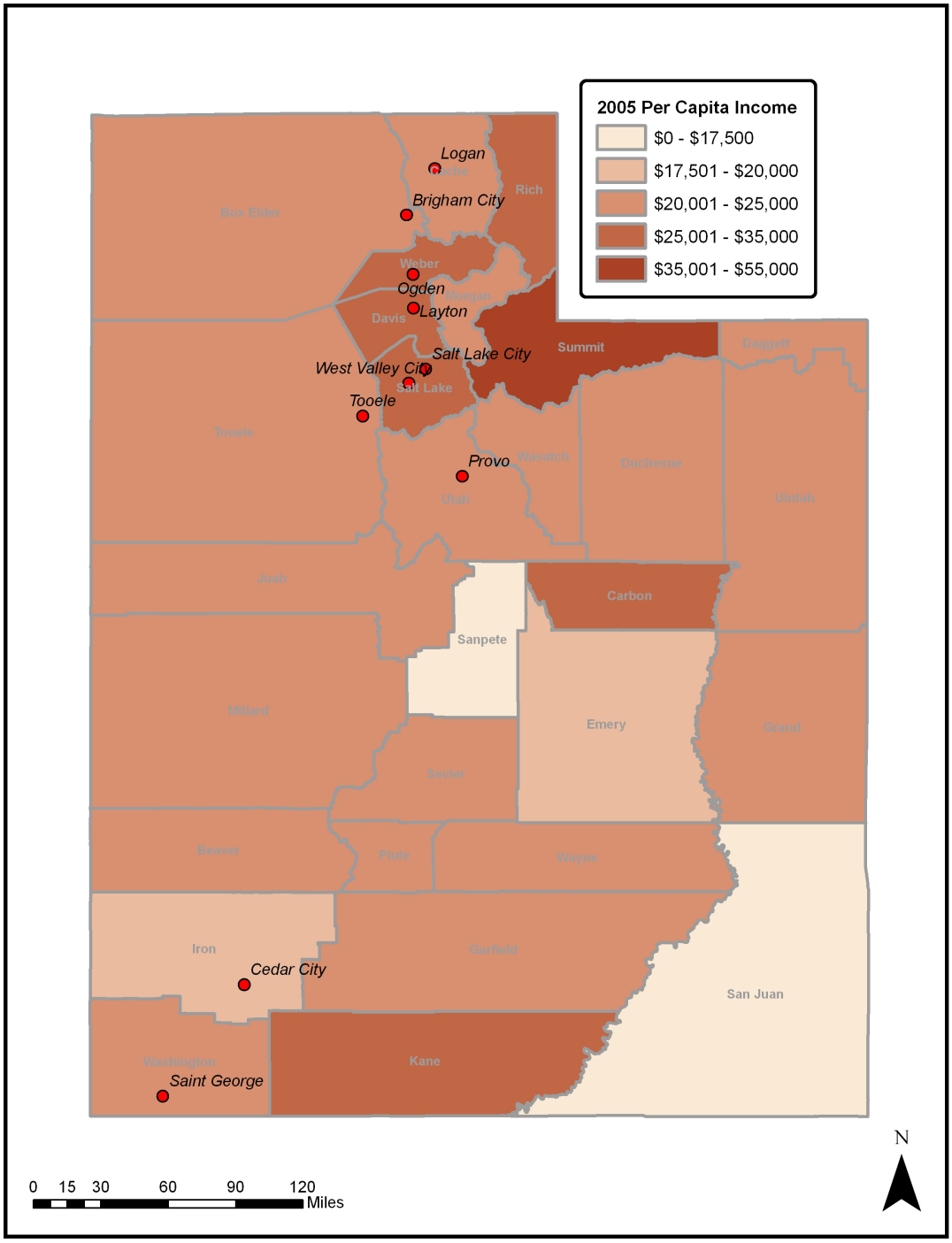
MCD	2000	2005	2030	AAG 2000-2005	AAG 2005-2030
Bear River	19,974	23,578	70,962	3.37%	4.51%
Central	17,008	20,775	69,734	4.08%	4.96%
Mountainland	28,335	31,055	94,215	1.85%	4.54%
Southeast	18,104	21,746	67,985	3.73%	4.67%
Southwest	19,356	23,153	74,785	3.65%	4.80%
Uintah Basin	17,036	22,214	64,438	5.45%	4.35%
Wasatch Front	23,485	26,430	76,617	2.39%	4.35%
State of Utah	**$23,878**	**$27,140**	**$81,915**	**2.59%**	**4.52%**

Source: Woods & Poole Economics, Inc. Wilbur Smith Associates 2006

Several counties experienced a faster growth in per capita income than the state as a whole. From 2000 to 2005, the average income of Piute County recovered from a low of $15,520 to $22,253, an average increase of 7.47% per year. Carbon, Daggett, Garfield, and Uintah counties also experienced income growth rates over 5%. With an average per capita income of $51,287 in 2005, Summit County is the highest paid county in Utah.

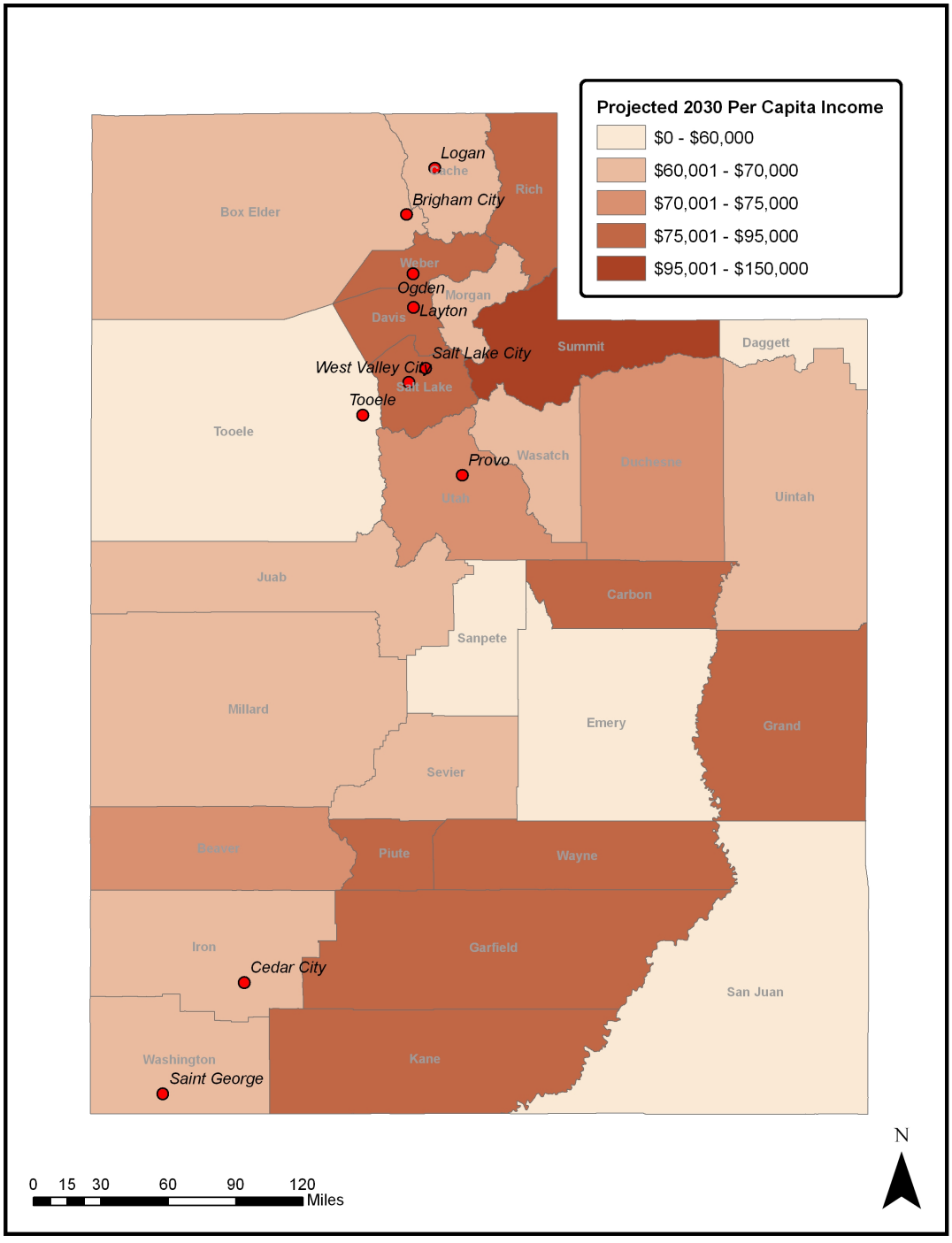
From 2005 through 2030 the average annual growth rate of per capita income in Utah is expected to increase to 4.59% per year. All seven MCDs are projected to have a similar growth rate, with none being above 5% and none below 4%. Woods and Poole projections expect the income growth rates for individual counties in Utah to also level out somewhat over the 25-year period, with only 4 counties growing at an average rate over 5%, and only 2 growing at a rate below 4%. **Exhibit 2-6** and **Exhibit 2-7** illustrate per capita income levels for 2005 and 2030 at the county level.

Exhibit 2-6
Per Capita Income by County in Utah, 2005



Source: Woods & Poole Economics, Inc. 2006

Exhibit 2-7
Projected Per Capita Income by County in Utah, 2030



Source: Woods & Poole Economics, Inc. 2006

AIRSPACE

The primary purpose of airspace class designations is to prevent mid-air collisions. This is accomplished by establishing rules for keeping aircraft separated that apply in each airspace class. In general, aircraft operate under one of two sets of rules – visual flight rules (VFR) or instrument flight rules (IFR) and each set of rules uses a different methodology to separate aircraft.

Under VFR, pilots rely on the "see-and-avoid" methodology to prevent mid-air collisions. Under this methodology, aviators are expected to maintain a visual lookout for other aircraft and alter course accordingly to avoid collisions and near misses. Different classes of airspace require different visibility and cloud ceiling requirements in order to ensure adequate visibility and safe VFR flight. Generally, as airspace becomes more crowded, visibility and cloud ceiling requirements increase to allow air crews more time and opportunity to see and avoid other aircraft. Additionally, more complex airspace requires more equipment, more communication, and higher pilot qualifications.

Under IFR, air traffic control provides adequate separation between IFR flights through the use of radar and radio communications. When conditions allow IFR and VFR flights to mix, the "see-and-avoid" methodology is still required of both IFR and VFR flights to keep IFR and VFR aircraft separated.
The FAA ensures that the see-and-avoid concept works by designating different classes of airspace, each of which has its own requirements. The two broad categories of airspace, controlled and uncontrolled, are explained below.

Controlled Airspace

Controlled airspace is a generic term that covers the different classifications of airspace (A, B, C, D and E) as defined by the FAA in the 1993 redesignation of our nation's airspace. A basic depiction of the types of airspace found in the national airspace system is shown in **Exhibit 2-8**. The following sections define the controlled airspace classifications and operating requirements.

Class A – Airspace at or above 18,000 feet mean sea level (MSL) and up to 60,000 feet MSL, unless otherwise designated, is considered Class A. All aircraft within Class A airspace must operate under IFR, and are under positive control of air traffic control (ATC). All aircraft operating in Class A airspace must have a radio and a transponder, a device that helps identify the aircraft on radar and informs air traffic control of the aircraft's altitude.

Class B – Class B airspace typically extends from the ground level to 10,000 MSL at the nation's busiest commercial airports. The configuration of each Class B airspace area is tailored to the individual airport and consists of a surface area and two or more layers intended to protect approach and departure paths used by commercial airlines. Like Class A airspace, all aircraft in Class B airspace must have a radio and a transponder.

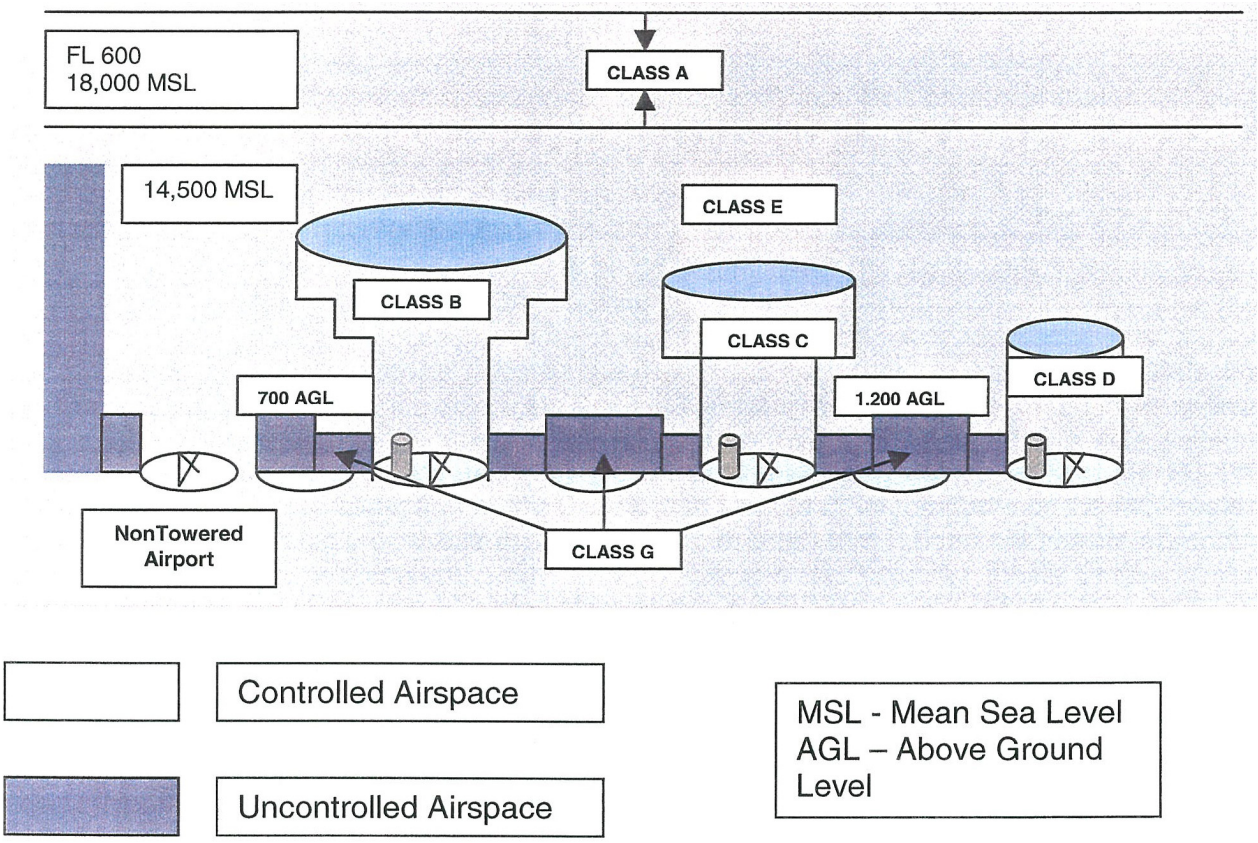
Air traffic control clearance is required for all aircraft to enter Class B airspace. Salt Lake City International Airport is the only airport in Utah with Class B airspace.

Class C – Class C airspace generally surrounds airports which have an operating control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger enplanements, but are less busy than airports surrounded by Class B airspace. Class C airspace typically extends from the ground level to 4,000 feet above the airport elevation (above ground level, AGL). Aircraft in Class C airspace must have a radio and transponder. Pilots are required to establish two-way radio communication with air traffic control prior to entering Class C airspace. There is no Class C airspace in Utah.

Class D – Class D airspace exists around those airports that have an air traffic control tower, but have less traffic than airports in Class C airspace. Class D airspace typically extends from the ground level to 2,500 feet AGL. Pilots must establish two-way radio communication with the air traffic control tower, before entering this classification of airspace so that air traffic control can sequence the aircraft for landing. However, an air traffic control tower typically provides aircraft separation only on the runway – not in the Class D airspace. During periods when the control tower is not in operation, Class D airspace reverts to the underlying airspace, typically class E or G. The airports in Utah in Class D airspace are Ogden-Hinckley Airport, Provo Municipal Airport and Hill Air Force Base.

Class E – Most controlled airspace that is not Class A, B, C or D, is designated as Class E airspace. In most places, Class E airspace starts at 1,200 feet AGL (but no lower than 14,500 feet MSL) and goes up to the boundary of the next class of airspace, which is usually Class A at 18,000 feet. Around airports with instrument approaches and instrument approach corridors, a cylinder of Class E airspace starts at 700 feet AGL and continues up to the next class of airspace. At certain airports, the Class E airspace starts at the surface and continues upward to the next class of airspace, in order to provide the more restrictive visibility and cloud clearance requirements of Class E airspace all the way to the surface of the airport. There are places in Utah where Class E airspace begins even higher than 1,200 feet AGL and this is indicated on aeronautical charts.

Exhibit 2-8
National Airspace System



Source: Federal Aviation Administration

Uncontrolled Airspace

Uncontrolled airspace is designated Class G airspace and consists of all the airspace that is not classified as Class A, B, C, D or E airspace. It is generally found beneath Class E airspace. Visibility and cloud clearance limitations are not as strict as controlled airspace since IFR traffic is not expected to operate in this airspace very often.

Special Use Airspace

Special use airspace consists of that airspace where activities must be confined because of their nature or where limitations are imposed upon aircraft that are not part of those activities. Much of the airspace with a special use designation is related to military activities. There are three kinds of special use airspace found in Utah – restricted areas, Military Operations Areas (MOA) and National Security Areas.

Restricted Areas – There are a number of restricted areas in Utah. Restricted areas are established, pursuant to FAR Part 73, to restrict (not prohibit) flight, to permit the user

(normally the military) large blocks of unimpeded airspace for their operations. These areas include R-6402 through R-6407, R-6412 and R-6413. Restricted Areas R-6402, R-6404, R-6406 and R-6412 are subdivided for better airspace utilization and control. The using agency for R-6402 through R-6407 (excluding R-6403) is the 6501 Range Squadron at Hill AFB, and the controlling agency is the Salt Lake City Air Route Traffic Control Center (ARTCC). These areas are in continuous use. Collectively, they are called The Utah Test and Training Range (UTTR) by the military. The using and controlling agency for R-6403 is the Tooele Army Depot. The using agency for R-6412 is the Utah National Guard, and the controlling agency is the Salt Lake City Air Traffic Control Tower. This area is designated for intermittent use and is activated by a Notice to Airmen (NOTAM). R-6413 is the Green River restricted area, used by the White Sands Missile Range. Denver Air Route Traffic Control Center is the controlling agency and it is activated by NOTAM.

Non-military access to all restricted areas in Utah, when active, is gained through the controlling agency, and all are designated for VFR and IFR use.

Military Operations Areas – There are four MOAs in Utah. They are designated Gandy, Lucin, Sevier, and Desert. All are located along the western border of Utah. MOAs are airspace areas assigned to segregate certain military activities from IFR traffic, to identify VFR traffic to the user and to make non-participating aircraft aware of these operations. Unlike restricted areas, civilian flights are not prohibited from flying into MOAs when active. Scheduling, coordination and flight procedures for MOAs are established by letters of agreement between local military authorities and concerned air traffic control facilities. MOA's are intermittently used. They are scheduled by the designated military scheduling point and are activated by ATC. They are frequently subdivided for better utilization of the airspace. All of Utah's MOAs, with the exception of Desert MOA, are scheduled by the 6501 Range Squadron at Hill AFB, and scheduling, coordination and flight procedures are established by letter of agreement with the Salt Lake City ARTCC. Most of Desert MOA is in Nevada and it is used by Nellis AFB.

National Security Area – There is one designated National Security Area in Utah, the Tooele Ammunition Depot. This area is depicted on low altitude enroute, sectional and terminal area charts. Pilots are requested to avoid flights in the designated area below 8,000 feet MSL.

Other Utah Airspace

Military Training Routes (MTRs) – MTRs are air corridors of defined lateral dimensions established for the conduct of military training at speeds in excess of 250 knots. These routes are designated IR or VR to indicate VFR or IFR use. IR routes are usable either in VFR or IFR conditions; VR routes are usable only when VFR. MTRs may be bi-directional or unidirectional. Similar to MOAs, the routes are scheduled by the using military unit via flight plan. Since these routes are below the radar coverage of ATC, the user is responsible to see and avoid other traffic. Entry to the route and exit is reported

to the Flight Service Station (FSS) as an advisory to other VFR traffic and for purposes of flight following. Each MTR is plotted on aeronautical charts and is designated to indicate whether the route is above or below 1,500 feet AGL. Most of Utah's MTRs are located in the southern and western parts of the state.

National Parks, Forests, and Refuges – Utah is home to numerous national parks, monuments, and wildlife areas. Because the government regards these areas as noise sensitive, many boundaries of National Park Service areas, U.S. Fish and Wildlife Service areas, and U.S. Forest Service Wilderness and Primitive areas are marked on aeronautical charts. Pilots are requested to maintain a minimum altitude of 2,000 feet above ground level when over these areas.

Skydiving and Parachute Jumping Areas – Skydiving areas are normally activated by NOTAM whenever parachute jumping is planned; however, pilots should use caution. There are additional areas occasionally used for parachuting activities, and these are identified by NOTAM. Skydiving is an FAA-recognized activity and is conducted in accordance with FAR Part 105. Utah has four charted skydiving areas – Tooele Valley Airport, Ogden-Hinckley Airport, Cedar Valley Airport, and General Dick Stout Field Airport in Hurricane.